

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/013989

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ C07D213/69, 309/38, 311/56, 413/10, 407/10, 215/22,
A61K31/366, 31/37, 31/4412, 31/4439, 31/4704, 31/5377,
7/06, A61P43/00, 17/14, 1/16, 11/00, 13/12, 17/02, 9/10, 9/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ C07D213/69, 309/38, 311/56, 413/10, 407/10, 215/22,
A61K31/366, 31/37, 31/4412, 31/4439, 31/4704, 31/5377,
7/06

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
CAPLUS (STN), CAOLD (STN), REGISTRY (STN), MEDLINE (STN), EMBASE (STN)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|--|
| A | JP 2001-89412 A (Otsuka Pharmaceutical Co., Ltd.), 03 April, 2001 (03.04.01), Example 144 (Family: none) | 1-22, 25, 28, 30, 34, 37, 39, 41, 42 |
| A | JP 2002-371078 A (Sankyo Co., Ltd.), 26 December, 2002 (26.12.02), Table 2 (Family: none) | 1-22, 25, 28, 30, 34, 37, 39, 41, 42 |
| A | JP 2001-504080 A (Cornell Research Foundation, Inc.), 27 March, 2001 (27.03.01), & WO 96/22021 A1 & AU 9647586 A & EP 808103 A1 | 1-22, 25, 28, 30, 34, 37, 39, 41, 42 |

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
16 December, 2004 (16.12.04)

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Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

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PCT/JP2004/013989

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| A | JP 2002-541253 A (SmithKline Beecham Corp.), 03 December, 2002 (03.12.02), & WO 00/61576 A1 & EP 1169317 A1 & EP 1169317 B1 & AT 231143 E & ES 2187473 T3 & US 6465493 B1 | 1-22, 25, 28, 30, 34, 37, 39, 41, 42 |
| X A | WO 01/79187 A2 (CYTOVIA, INC.), 25 October, 2001 (25.10.01), CAS RN: compounds of 369389-17-3, 369389-19-5, 369389-21-9, 369389-63-9, 369389-65-1 & WO 01/79187 A3 & US 2002/010169 A1 & EP 1324993 A2 | 6, 9 1-5, 7, 8, 10-22, 25, 28, 30, 34, 37, 39, 41, 42 |
| X A | RACHEDI, Y. et al., Synthesis of 4-hydroxy-6-methyl-3-β-arylpropionyl-2-pyrones by selective catalytic hydrogenation of 3-cinnamoyl-4-hydroxy-6-methyl-2-pyrones, Synthetic Communications, 1989, Vol.19, No.20, p.3437-42, CAS RN: compound of 128145-82-4 & Chemical abstracts 113:58843 | 6, 9 1-5, 7, 8, 10-22, 25, 28, 30, 34, 37, 41, 42 |
| X A | JP 41-1412 B1 (Research Institute For Production Development), 03 February, 1966 (03.02.66), CAS RN: compound of 5169-90-4 (Family: none) | 6 1-5, 7-22, 25, 28, 30, 34, 37, 39, 41, 42 |
| X A | JP 50-46666 A (Toray Industries, Inc.), 25 April, 1975 (25.04.75), CAS RN: compound of 57339-78-3 (Family: none) | 14 1-13, 15-22, 25, 28, 30, 34, 37, 39, 41, 42 |
| X A | UKITA, Chunoshin et al., In vitro screening of tricarbonylmethane and related compounds for their antitumor effect by cylinder agar plate method, Chemical & Pharmaceutical Bulletin, 1961, Vol.8, p.1016-20, CAS RN: compound of 94578-81-1 & Chemical abstracts 58:48844 | 14 1-13, 15-22, 25, 28, 30, 34, 37, 39, 41, 42 |
| X A | KALECHITS, G.V. et al., Synthesis and properties of 3-cinnamoyl-4-hydroxy-2-quinolone, Russian Journal of General Chemistry (Translation of Zhurnal Obshchei Khimii), 2001, Vol.71, No.8, pages 1257 to 1260, CAS RN: compound of 428818-04-6 & Chemical abstracts 136:401624 | 22 1-21, 25, 28, 30, 34, 37, 39, 41, 42 |
| A | US 4017633 A (SMITHKLINE CORP.), 12 April, 1977 (12.04.77), (Family: none) | 1-22, 25, 28, 30, 34, 37, 39, 41, 42 |

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PCT/JP2004/013989

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|--|
| A | WO 97/35565 A1 (Toray Industries, Inc.), 02 October, 1997 (02.10.97), & CA 2222471 AA & AU 9720436 A1 & AU 721881 B2 & EP 841063 A1 & CN 1194580 A & NO 9705439 A & US 6215016 B1 | 1-22, 25, 28, 30, 34, 37, 39, 41, 42 |
| A | JP 3-503635 A (The Upjohn Co.), 15 August, 1991 (15.08.91), & WO 89/07939 A2 & WO 89/07939 A3 & AU 8940747 A1 & EP 403535 A1 & DK 9001956 A | 1-22, 25, 28, 30, 34, 37, 39, 41, 42 |
| A | JP 9-227547 A (Mitsui Toatsu Chemicals, Inc.), 02 September, 1997 (02.09.97), (Family: none) | 1-22, 25, 28, 30, 34, 37, 39, 41, 42 |
| P, A | JP 2004-123621 A (Sumitomo Chemical Co., Ltd.), 22 April, 2004 (22.04.04), (Family: none) | 1-3, 10, 11, 13 |
| P, A | JP 2004-123620 A (Sumitomo Chemical Co., Ltd.), 22 April, 2004 (22.04.04), (Family: none) | 1-3, 10, 12, 14 |
| P, A | WO 03/080592 A1 (Sumitomo Chemical Co., Ltd.), 02 October, 2003 (02.10.03), & JP 2004-175780 A | 1-5, 7, 8 |